

Improving Educational Quality (IEQ) Project

**RAINBOW CHARTS and C-O-C-O-N-U-T-S:
Teacher Development for Continuous Assessment in Malawi Classrooms**
A synopsis of the activities under the Improving Educational Quality (IEQ)
Malawi Continuous Assessment Feasibility Study November 2001–May 2002

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Preface

Rainbow Charts and C-O-C-O-N-U-T-S tells the story of how teachers in the Ntcheu District of Malawi worked side by side with many educators throughout the Education System and the IEQ/Malawi team to develop and implement an idea labeled “continuous assessment.” The request came from USAID/Malawi to the Improving Educational Quality (IEQ) project, whose host institution is the Malawi Institute of Education (MIE).¹ IEQ was delighted to begin a collaborative process with Malawian educators to transform the idea into reality. The result was a feasibility study in 21 schools, working with the 21 headteachers, 53 teachers and 3,414 pupils (the pupil/teacher ratio ranged from 119:1 to 47:1) in Ntcheu to work “from the ground up”—to define continuous assessment and then develop and operationalize an approach. The process of this collaborative effort among educators throughout the system is presented here for discussion and future application in other educational environments.

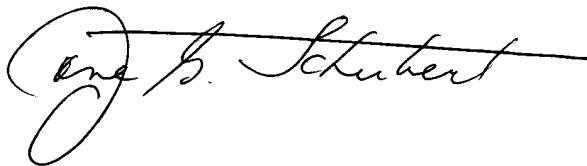
Continuous assessment is a term often more frequently used than defined. However, it is an idea that is gaining currency. A need exists to increase knowledge about and proficiency of pupil learning throughout the primary cycle if higher completion rates are to be realized. As the Malawian educators worked with the IEQ/Malawi team to create the approach described in this paper, they also addressed specific questions to articulate the meaning of continuous assessment (aka continuous IMPROVEMENT) in the Malawian context. One outcome of their efforts was to integrate this continuous assessment approach into the professional development of Malawian teachers.

This paper is organized around key questions often asked about continuous assessment. It is intended for educators who are in positions to choose new approaches or to set policy that encourages the development of improved teaching and learning. Several presentations about the continuous assessment experience in Malawi have been made [at the Comparative International Education Society (CIES) annual conference, March 2002, and at the Basic Education Exchange (USAID/Africa Bureau/Education Division), September 2002] and will be made [at the Sub-Regional Conference on Assessment (hosted by the Examinations Council of Zambia), June 2003]. In April and May 2003, IEQ/Malawi hosted two national IEQ Exchanges—one for practitioners and one for policymakers—in which the experience of developing and implementing continuous assessment in Ntcheu was a central theme. The dialogue proposed ways in which continuous assessment may be integrated in the education sector in Malawi—e.g., as a course in Teacher Training Colleges, in the Primary Curriculum & Assessment Review (PCAR) that will result in a new primary school curriculum in 2005, and by incorporating Teaching and Learning Using Locally Available Resources (TALULAR).

¹ IEQ/Malawi is a partnership between the Malawi Institute of Education and Save the Children Federation/USA, Mangochi Field Office.

We hope that the story contained herein will stimulate dialogue about continuous assessment as a tool for improving the quality of education. Companion documents to this paper are: *Continuous Assessment for Standard 3: A Training Manual for Educators in Malawi* and the film *Continuous Assessment in Action*.

IEQ/Malawi has been honored to work with the educators whose names are presented at the conclusion of this paper. We extend our special appreciation to the enthusiastic support of: USAID/Malawi (Mr. William Mvalo and Mr. Ramsey Sosola, Education Officers); MIE [Dr. Simeon Hau (Executive Director), Dr. Hartford Mchazime (Coordinator), Mr. Yoas Kamangira, Mr. Henri Chilora, Mr. Nick Shawa, Mr. Gibson Zembeni, Ms. Annie Kainga, and Mr. A.S.K. Gama]; Save the Children (Mr. Lester Namathaka, Mr. Francis Mabeti, Mr. Andrew Malisawa, Ms. Sophie Mhoni, and Ms. Alisa Phillips); Dr. Shirley Miske and Dr. Abigail Harris, who provided technical guidance in the research of this implementation; Ms. Joy du Plessis (AIR) who facilitated the development and implementation of Continuous Assessment in Ntcheu and prepared this paper; and Ms. Charmaine Llagas (AIR), who edited, formatted and prepared this paper for publication.

A handwritten signature in black ink, reading "Jane G. Schubert". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

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Why train teachers in Continuous Assessment?

In 2000 the United States Agency for International Development (USAID)/Malawi asked the Improving Educational Quality II (IEQ) Project and the Malawi Institute of Education (MIE) to assist the Malawi Ministry of Education Science and Technology (MOEST) in the development of a model for continuous assessment in Malawi primary schools. This request stemmed from a number of concerns over declining primary school pupils' examinations scores such as, IEQ Malawi research which revealed that pupils in grades 3 and 4 were unable to read and write, or carry out basic mathematic operations, increasing numbers of primary pupil dropouts, and increased interest among the educational community to develop relevant and effective continuous assessment methods. It was felt that effective continuous assessment would help teachers understand what learners know, understand and can do. The analysis of the pupil assessment by teachers would lead to teachers taking pedagogical action for greater pupil learning.

MOEST and USAID sponsored consultancies, workshops and forums on continuous assessment in the late '90s created increased interest and awareness of continuous assessment methods as well as the link between good continuous assessment and increased learning. One of the outcomes of these efforts was the sense among Malawi educators and policy makers that effective continuous assessment could contribute to increased pupil achievement and retention, and improvement in teachers' pedagogy. This paper describes the development of a model for continuous assessment in Malawi primary schools that emphasizes the development of teachers' understandings of assessment and the role continuous assessment has in improving teaching and learning.

IEQ Malawi developed a framework for the continuous assessment model around several principles agreed upon by the IEQ team. These principles emerged from the educational research literature, consultations with a wide range of stakeholders and our own understandings. The principles on which the feasibility study is based are summarized below. Continuous assessment should:

- be relevant to the Malawi context of large class sizes, limited resources and unskilled teachers
- use authentic and performance assessments
- be based on curriculum content
- include a variety of assessments
- include record keeping
- involve analysis of pupil performance
- use pupil performance to inform instruction (remediation and enrichment)
- giving appropriate feedback to pupils
- include reporting to parents and others

- increased parental and community involvement
- include self-assessment
- use locally available materials for teaching, learning and assessment

In designing our feasibility study the IEQ team also wanted to avoid some of the problems that were inherent in other continuous assessment interventions. Namely, IEQ Malawi wanted to avoid:

- “continuous testing”
- making unnecessarily high demands of teachers (many of whom are unskilled)
- the production and distribution of vast quantities of assessment materials
- excluding teachers’ and pupils’ voices in the development of the assessment strategies
- the isolation of assessment from teaching and learning, and the school and community in general
- unsustainable approaches and strategies

What is Continuous Assessment?

An examination of continuous assessment models in southern Africa reveals that most rely heavily on “continuous testing”. Teachers are either taught to make, or are given monthly tests by district or national officials to administer to pupils for the purpose of finding out what students don’t know so that the problems can be targeted. Records of the tests scores are often used by inspectors and others to check on how well a particular teacher or school is doing. Indeed in Malawi at present, many primary teachers report² that their main method for assessing pupils is giving monthly tests.

Figure 1. Standard 1 pupils waiting for end of term oral tests. Photo by S. Schmidt.



² Schmidt, S., Miske, S. and Santhe, E. (2003). *Continuous Assessment Beliefs and Practices in Malawi Primary Schools*. IEQ II Malawi Project. Malawi Institute of Education: Domasi, Malawi.

In many respects the model of continuous assessment that focuses on “continuous testing” actually impedes learning and constricts teaching. An examination of the literature, discussions with teachers, pupils and other stakeholders reveals that for many pupils there is a great deal of anxiety related to taking tests. Tests are often poorly developed, often do not reflect a child’s progress or understanding, and provide an incomplete picture of a child for the purposes of summative evaluation (end of year marks). Teachers feel compelled to provide instruction that “covers the curriculum” by providing endless notes for later recall, or repetitive choral drills. Their methods are limited by a sense that it is more important for pupils to recall information for tests than to try divergent teaching practices that aim at higher order thinking skills which are often not tested.

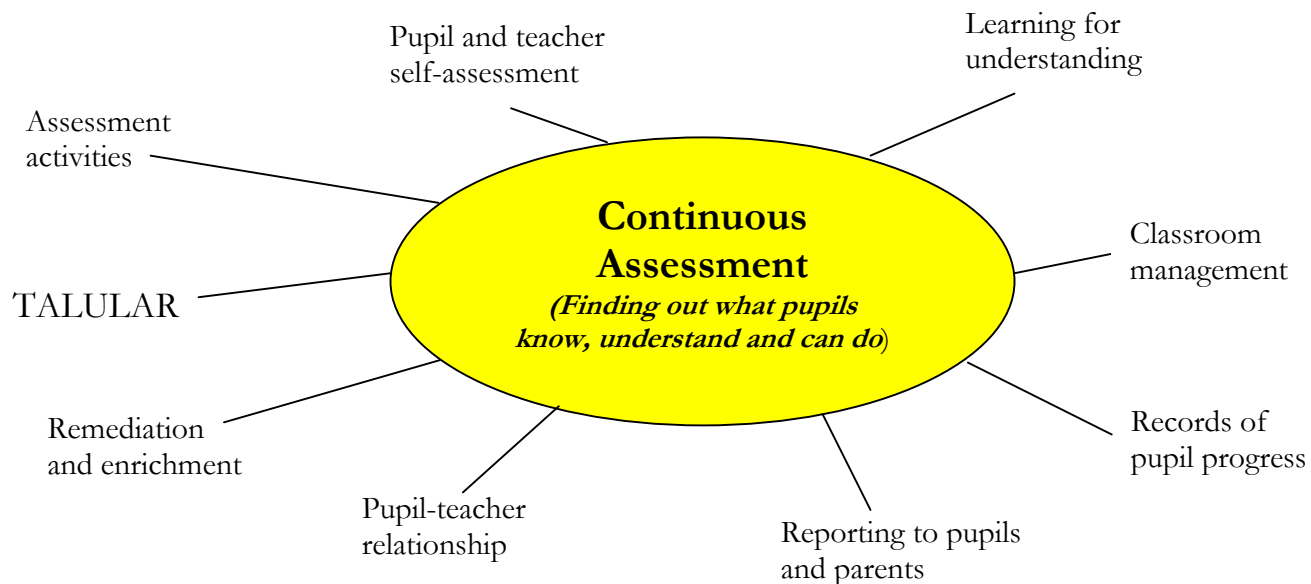
IEQ II Malawi’s model of continuous assessment with its focus on a variety of assessments and improving teachers practice attempts to shift the perspective of continuous assessment away from one of “continuous testing” to one in which a variety of assessments are used to promote pupil learning.

Table 1. Shift in the Way Continuous Assessment is Viewed.

FROM	TO
Continuous testing	Variety of assessments
Summative	Formative
Multiple choice tests	Authentic and performance assessments
Isolated from teaching and learning	Integrated with teaching and learning
Developed external to the school	Developed by teachers
Quantitative reporting (% , ranking)	Emphasis on progress according to levels
Little feedback to pupils	Constructive feedback to pupils
High pupil anxiety	High pupil engagement

In the feasibility study, the development of a continuous assessment model centers on the perspective of pedagogy. That is, the purpose of continuous assessment is to improve the way teachers assess pupils, leading to improved instruction and ultimately improved learning. Keeping the emphasis on teacher development, we developed a framework for continuous assessment that would further guide the development of the continuous assessment model.

Figure 2. Framework of continuous assessment.



How was the Continuous Assessment model developed?

The objectives of the feasibility study on continuous assessment were to develop strategies for assessing pupils that were workable for Standard 3 teachers.³ It was important to ensure that assessments developed were related to the curriculum, validly measured student learning, were easily understood by teachers, and could be carried out by teachers within the constraints of their classroom context. The IEQ team developed the principles and framework for continuous assessment based on review of the literature on continuous assessment, review of the experiences in Southern Africa, and broad consultation within the Malawi educational community. Developing the model for continuous assessment based on the principles and framework required a reflective process of design, implementation, and analysis.

In order to ensure that the model was going to work for Malawi's teachers we asked the teachers in the feasibility study to be full participants in the development of the continuous assessment model. Furthermore, it was imperative to include a broad range of education stakeholders in the development

³ Twenty-one schools in the Ntcheu District were selected representing a cross-section of geographic and economic areas as well as having a range of educational achievement among the schools. Fifty-four teachers and 21 head teachers took part in the feasibility study.

of the model so as to engage various perspectives in the development of continuous assessment that works. In addition to teachers, and the IEQ Malawi team, headteachers, Primary Education Advisors (PEAs), teacher college lecturers, officers from the Malawi National Examination Board (MANEB), Curriculum Officers from MIE, Ntcheu District Education Officials, Education Methods Advisory Services (EMAS) Officers were all involved in the design, implementation (or analysis of implementation) and redesign of the model.

The role of teachers was to try out the continuous assessment model at their schools, and to discuss with colleagues how they were implementing the model, what was successful for them, and ways they thought they could improve on the model. Teachers were asked to come to residential workshops with their creativity and criticisms of the model. For most teachers this was a transformative experience in that many of them had never participated as contributors in an educational in-service program. It is the norm that teachers participate as receivers of knowledge rather than creators of knowledge. After the first residential workshop with teachers one teacher spoke on behalf of the teachers present:

“...We feel respected and honored to be called pioneers of continuous assessment [for the] whole of Malawi and we are proud of this. Our promise, is that we shall pioneer hard on this project to bring you the best outcomes of C.A. [continuous assessment].”

Another group of teachers asked for notebooks so that they could keep journals of what they were learning in order to keep a record to share with others.

A Training and Support Team (TST)⁴ was established early on to assist in the design of the strategies, develop and deliver workshops to teachers, and support teachers in the field. TST school visits served several purposes. TST members offered support to teachers and headteachers in implementing assessment strategies, gather information on strengths and weakness of the model as viewed at the classroom and school level, and to assess teachers in their knowledge and skills in the assessment strategies being implemented.

What are the main features of this model of Continuous Assessment?

The main features of continuous assessment are the development of curriculum related assessment activities in maths, Chichewa and English, engaging pupils in learning by reducing anxiety around

⁴ Composed of IEQ Malawi, PEAs, teacher educators, MANEB Officers, and MIE Officers.

assessments, empowering teachers to use local resources for teaching and learning, simple recording and reporting procedures and how to provide remediation and enrichment to pupils. This section describes some of the main features. For more details refer to the manual on continuous assessment developed for Standard 3 teachers.⁵

ASSESSMENTS IN MATHS, ENGLISH AND CHICHEWA

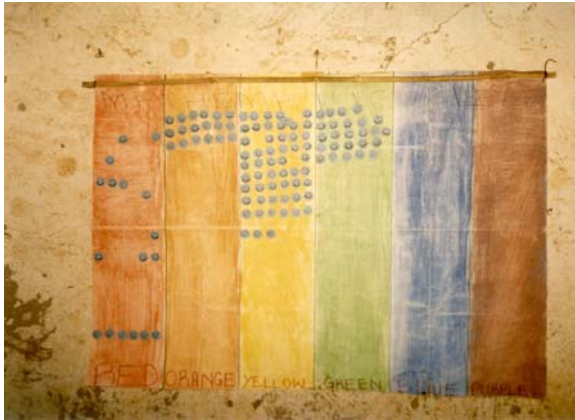
In the earlier longitudinal studies by IEQ Malawi in three other districts the investigation focused on numeracy and literacy in the subjects of mathematics, English and Chichewa. In those studies pupils were assessed in the three subjects using performance and authentic assessments related to the curriculum. Using the results of nearly 2,000 pupils on those assessments IEQ Malawi was able to create six levels of progress that were directly connected to curriculum content in each of the three subjects. In Standard 3 maths, for example, the first level included identification of numbers, counting concrete objects, and coin recognition. The highest level included long division of four digit numbers by one digit numbers, word problems involving multiplication and division and recognition of (saying or writing) four digit numbers. Using the colors of the rainbow, each of the six levels was assigned a color. The lowest level was red, then orange, yellow, green, blue and purple - the highest and most difficult level for Standard 3 pupils.

For each subject, there are six levels of progress, with each having its own set of assessments. Each level corresponds to a color in the rainbow starting with red and ending with purple. The chart below outlines the six levels of Chichewa in Standard 3. For a more detailed description of the assessments refer to Continuous Assessment for Standard 3: A Training Manual for Educators in Malawi.⁶ Assessment items for each level for each subject along with the materials needed and instructions for assessment are included in the manual.

⁵ Chilora et. al. (2003). *Continuous Assessment for Standard 3: A training manual for educators in Malawi*. Malawi Institute of Education and Improving Educational Quality Project: Domasi, Malawi.

⁶ Philips, et. al. (2003). *Continuous Assessment for Standard 3: A training manual for educators in Malawi*. Improving Educational Quality Malawi Project, Malawi Institute of Education, Domasi. Malawi.

Figure 3. Rainbow Chart.



REDUCING PUPIL ANXIETY

As was noted above, one problem with traditional continuous assessment methods was the use of “continuous testing” which inevitably was accompanied by high anxiety among pupils as they prepared for and took the tests. Since the continuous assessment in the model was meant to reduce pupil anxiety in order to fairly establish what a pupil knows, understands, and can do we developed a format of assessing pupils in a non-threatening atmosphere which allows pupils to “show the teachers” what he or she knows. We tried a number of strategies that were very effective and that had positive impacts on teaching and learning. We asked teachers and TST members to avoid certain language related to high stakes testing when in discussion with teachers and pupils and parents. We tried to, for example avoid the words tests and exams when referring to the assessments, to avoid the words ‘fail’ and ‘failure’ and refer instead to ‘did not yet pass’ when a pupil is finished being assessed. We also placed an emphasis on progress rather than failure.

Pupils were treated in warm, caring ways during the assessments. Teachers engage the pupil in conversation just prior to the assessment that is aimed at making the pupil feel at ease.

Figure 4. Teacher assessing a Standard 3 pupil in mathematics during a training activity. PEAs are observing the assessment.



Pressure is removed from pupils during the assessment. One way this happens is by affording pupils to be assessed when they are ready. If some pupils are anxious or do not feel well or do not feel prepared the teacher can assess them at a later time.

Another way is that during the assessment, teachers use neutral (rather than critical) language to the pupil after every answer. Teachers respond by saying *zikomo* (thank you), or *chabwino* (ok) after each pupil response. At the end of the assessment of each level the teacher asks the pupils to assess their own performance by saying:

How do you think you did? Which ones were easy for you? Which ones did you have trouble with?

The teacher will also inform the pupil of his performance by saying something like the following:

You did very well, you passed the red level and now you are ready to work on the orange level. Congratulations.

Or:

Good try, William. You did not yet pass the red level. You had problems with the syllables po, bo and di and ti. Practice these with the cards at the back of the room and ask for help from Mary. You can be assessed in the red level in two weeks.

Table 2. Malawi Continuous Assessment Feasibility Study. Maths Progress Levels, Standard 3.

Level	Content and Tasks (8 out of 10 correct)
Red	<ul style="list-style-type: none"> Numbers numeration Values of Malawi currency (up to K1.00) Writing numbers Identifying numbers Subtraction - single digit numbers Addition - single and double digit numbers
Orange	<ul style="list-style-type: none"> Identifying missing numbers Mental arithmetic (addition, subtraction) Division - single digit numbers Reading maths problems
Yellow	<ul style="list-style-type: none"> Multiplication Reading maths Mental arithmetic Subtraction - Double digit numbers Measurement (distance, volume) Addition - double digit numbers
Green	<ul style="list-style-type: none"> Shopping Identifying numbers up to 700 Subtraction by regrouping Addition by regrouping Writing number up to 1000 Subtracting a triple and a double digit number Identifying triple digit numbers
Blue	<ul style="list-style-type: none"> Shopping Identifying four digit numbers Multiplication - double and single digit numbers Division - double and single digit numbers Reading word problems Counting in multiples of 100
Purple	<ul style="list-style-type: none"> Multiplication - triple and single digit numbers Measurement (distance, liquids) Reading word problems Division - triple and single digit numbers Reading decimal points (fraction) Multiplication of four and single digit numbers Writing decimal points Subtraction - triple and double digit numbers

TALULAR AND C-O-C-O-N-U-T-S

IEQ Malawi decided early in the process to avoid having to produce expensive assessment materials that would have to be delivered to schools in a timely manner in order for the assessments to take place. Printing and distribution problems as well as high production costs argued for a different, more sustainable approach.

The MIE has been a pioneer in the development of teaching and learning materials that goes beyond the traditional ‘make and take’ approach. The TALULAR (Teaching and Learning Using Locally Available Resources) approach places the emphasis on helping teachers to creatively use the natural environment and other resources for teaching and learning materials. The TALULAR approach includes a focus on how to use the resources to improve instruction and learning.

In teachers’ residential workshops TALULAR sessions included the construction of assessment materials such as item cards, word cards, number cards and storyboards. Additionally, teachers made rainbow charts to display student progress in each of the three subjects, self-assessment boards, pupil progress record books and other teaching and learning materials. In TALULAR teachers are engaged in a creative process of thinking about resources more broadly. They learn to use fingers for adding, multiplying and dividing. They bend their bodies, raise and lower their arms to spell out words such as C-O-C-O-N-U-T.

Figure 5. TALULAR objects for literacy & numeracy.

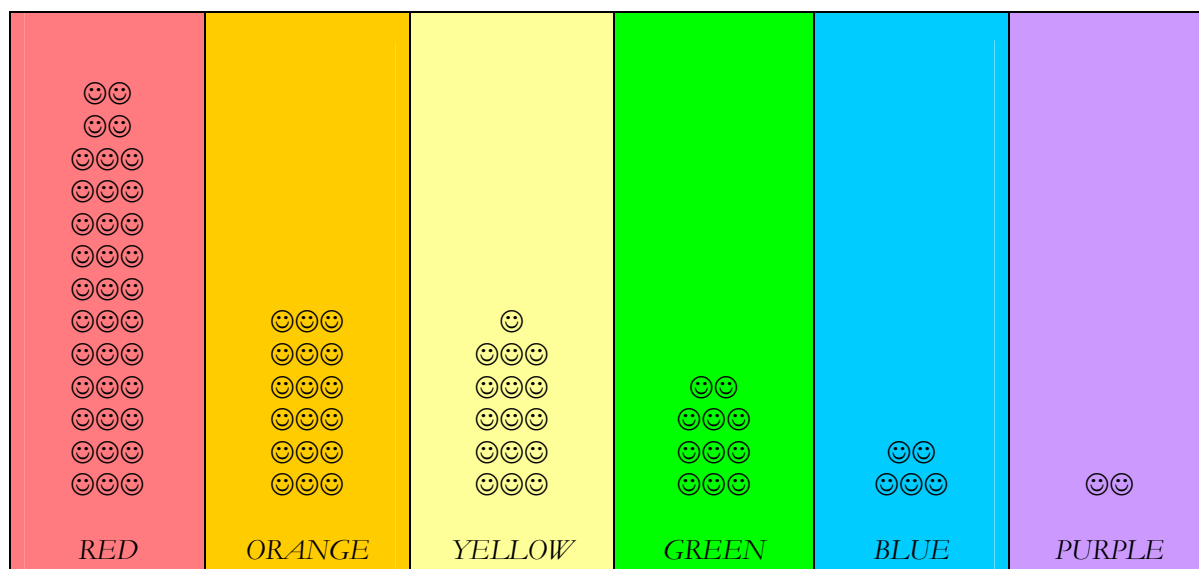


By training teachers in TALULAR they are able to make assessment and teaching and learning materials on their own.⁷ Teachers are then responsible for creating, producing and storing their own assessment materials.

RAINBOW CHARTS

In the feasibility study we wanted to focus on pupil progress rather than failure. When pupils pass a particular assessment (e.g. red level in maths) he or she would then move to the orange level where they would work on material that is connected to the curriculum content related to that level. Each teacher made three charts (one for each subject) to hang in the classroom. Every child in the class had a “happy face card” (J) stuck on to the rainbow chart with tape or ‘prestick’ showing where he or she is in that subject. So for example, if Mary Phiri passed the assessments in the red and orange levels in Chichewa the teachers would place her happy face card on the rainbow chart in the yellow level. Yellow represents the knowledge and skills in the curriculum that Mary is working on. An example of a Rainbow Chart with happy faces representing each pupil in the class is below.

Table 3. Standard 3 Chichewa Rainbow Chart.



The rainbow chart, used by teachers and pupils can be a tool for monitoring and promoting progress. In this system the emphasis is on progress, moving from one level to the next. All children should exhibit progress in school and this is one way of ensuring that children are continually learning. If

⁷ For a more detail examination of the TALULAR approach, refer to Chilora, et. al. (2003). *Continuous Assessment for Standard 3: A Training Manual for Educators in Malawi*. Improving Educational Quality Project/Malawi, Malawi Institute of Education, Domasi. Malawi.

teachers observe some children remaining in a level too long, she can take action to find out what the obstacles are and find ways to help the child learn what is required to move to the next level.

SELF-ASSESSMENT

Most traditional assessments have few self-assessment components. We thought self-assessment, would be an ideal way to include pupils in the assessment process, help them to understand the criteria for quality work, and help them think about how they learn. This was the rationale for including self-assessment in the continuous assessment model.

After assessing a pupil in a particular level part of the teacher's role is to ask the pupil how she or he has done. At the end of the assessment the teacher may ask:

How did you do on this assessment? Did you find any questions difficult? Which ones? Did you find any questions easy? Which ones?

The purpose of these questions is to get pupils to move into self-assessment, that is, to think about what they know and how they know it. This metacognition is an important aspect of intellectual development. Pupil marks in Standard 3 are not included in overall evaluation.

RECORDING

Recording pupil assessments and progress is an important component of any assessment strategy. Although informal, non-recorded assessment plays a role in any good teaching, recorded assessments play the largest part in overall evaluation, what is communicated to parents and others about a child's progress, and provides the teacher with evidence for developing lesson plans for the pupils in his or her class.

In developing the model we focused on simple record-keeping based on the progress of a pupil. We intentionally avoided lengthy and complicated calculations which have often been shown to be inaccurate, causing some pupils to fail unnecessarily or others to pass without merit.⁸

Teachers made their own record books and recorded pupil marks or scores by using colored pencils or crayons to indicate that a pupil had passed a particular level of the rainbow. Dates were to be written

⁸ See Fair. (1995). *Passing and Failing Learners. A study of Namibia's....etc.* for a study in Namibia' lower primary schools that reveal that teachers were passing and failing learners based on inaccurate calculations of pupils' marks and lack of understanding of what constituted a passing grade.

in on the day that a pupil passed the assessment for that level. Record books were meant to be easy to keep and easy to read.

CLASSROOM MANAGEMENT

In order to assess pupils on a one-to-one basis, other pupils have to be fully engaged in independent learning activities. This requires skill in classroom management, good lesson planning and preparing of pupils to be self-directed learners and work cooperatively in groups.

Additionally, as teachers analyze the results of the assessments they will notice that there may be a number of pupils in each level in each subject. The instructional strategies to deal with this situation require differentiated learning within the same classroom. To strengthen teachers' skills in these areas we held several sessions on classroom management to help teachers group pupils, enable pupils to work well in groups, develop classroom routines and prepare instruction for different groups of pupils. Follow up discussions at the school also focused on classroom management.

REMEDIATION AND ENRICHMENT

As we started to focus on progress and individual assessment, teachers became more aware of individual pupils' strengths and weaknesses. In carrying out these assessments, some teachers were able to identify pupils with special needs whom they had never been noticed before. Two or three pupils who had appeared bored have, turned out to be far in advance of their classmates on the subject matter, based on assessments.

Individual continuous assessment has helped teachers to identify pupils' strengths and weaknesses. Addressing these strengths and weakness by providing more than one learning activity in a classroom is the next step. Traditionally, remediation meant keeping the pupils after class and re-teaching them in the same way as before, often over and over again. Residential workshops focused on equipping teachers with several strategies to teacher a particular topic or skill. Rather than remediation and enrichment taking place after class we suggested ways teachers could integrate remediation in regular classroom teaching.

PARENTAL INVOLVEMENT

In the continuous assessment feasibility study, the participants designed a new way of informing parents about the new continuous assessment activities at their school. TST members, headteachers and teachers developed a method of dramatizing to parents how children are assessed, how the different assessment levels (colors of the rainbow) relate to the curriculum, and how locally available resources are used in the classroom. The dramatizations at parent meetings at the schools were a

breakthrough on the level of curriculum awareness by parents. As a result of the meetings parents were able to ask questions and discuss aspects of the school curriculum. As pupils demonstrated the skills and knowledge in each of the levels for the three subjects in the study to parents, the parents gained insight into what is to be taught and learned.

Parental input, for the most, remains in the realm of structural improvements such as new roofs, new locks on doors and in some cases new doors on classrooms so that teachers would be free to leave teaching and learning materials displayed in the classroom with out fear that the materials would be destroyed or taken. Nevertheless, it is clear that community involvement rests on an emerging foundation of their understanding the purpose and content of the curriculum.

What do we know about the effectiveness of this model of Continuous Assessment?

In general, the model of continuous assessment appears to be effective in improving the quality of education in Standard 3 classes in Ntcheu. There is evidence of improved pupil-teacher relations, parental support to schools, commitment by teachers and headteachers, improved teacher-headteacher relations, improved learner attendance and learning gains in maths, English and Chichewa.

In March 2002, MIE staff assessed standard three pupils in maths and English reading and writing. Pupils made impressive gains in all there areas. Among the 122 pupils in the study, the average score on the maths assessment was 49 percent of problems correct. The assessment included questions about beginning maths, numbers, addition, subtraction, multiplication, division, money, and measurement. By October, the same year, pupils achieved an average 63 percent correct, a gain over the academic year of 14 percentage points. This gain is more than twice the size for a sample of standard three pupils in Mangochi and Balaka (N=603), who had gained an average 6 percentage points during a similar period. Gains were the highest on the “numbers” sub-section of the maths assessment, in which pupils were asked to count large numbers, identify and write large numbers, and identify and order large numbers in a consecutive series. Pupils in the Ntcheu continuous assessment classes gained an average of 21 percentage points during the year, compared to a 10 percentage point gain in Mangochi and Balaka.

The pre-reading and reading assessments demonstrated similar success. Perhaps the most impressive statistic is related to pupils’ ability to identify letters and sounds. In March, Standard 3 pupils in Ntcheu could only identify 15 percent of upper- and lower-case letters in the Roman alphabet and their related sounds. By October, however, pupils could identify 69 percent of letters and sounds, a gain of 54 percentage points. Over the same period, standard three pupils in Mangochi and Balaka went from an average of 31 percent correct to 50 percent correct, a gain of 19 percentage points.

Differences in reading scores were also striking. In March, pupils in Ntcheu could not read any words from a standard three English reading passage. By October, they could read an average of 20 words in the passage (compared to average scores of two words in February and 16 words in October for pupils in Mangochi and Balaka). Similarly, whereas pupils in Ntcheu could only identify an average of 14 common English words in March, they could identify an average of 41 common English words in October (compared to an average 9 words in February and 22 words in October for pupils in Mangochi and Balaka).

Importantly, there is an increased demand by teachers within the targeted schools, from neighboring schools and even at the District level, for more workshops and sharing of ideas on continuous assessment. Visitors to the classrooms of the feasibility study teachers will notice a marked difference between their classrooms and others within the school. Although a lot of work needs to be done in the area of teaching strategy improvement and classroom management, classrooms now contain rainbow charts, self-assessment charts, sentence boards, maths manipulatives, story boards, job cards and other TALULAR materials absent in other classrooms. Bare classrooms have been transformed to exciting and stimulating environments where in some cases, pupils come early to school in order to spend time reading and using TALULAR items.

What are some of the challenges encountered in the Feasibility Study?

LARGE CLASS SIZE

The large classes that almost all teachers in Malawi primary schools deal with is an important aspect in implementing continuous assessment. Many teachers struggle to assess all pupils in their class because of the demands that the assessment, recording, reporting and other aspects of teaching and learning placed on them. What is interesting to note, is that despite the large class sizes there were significant learning gains made in these classes within a 6-month period. It raises the obvious question as to what could be achieved in classrooms if class sizes were reduced to a more manageable level of 40 pupils per teacher.

RECORD KEEPING

Record keeping in continuous assessment poses major challenges in consistency and reliability. While trying to keep the recording as simple as possible teachers are not consistent in their record keeping. While some indicate the dates when a pupil has passed a level, others not. While some teachers indicate the number of correct responses for a pupil on an assessment (not required) others placed a tick (a) beside the pupil's name. In addition, some teachers' record books reflect a full page of

assessments when it is obvious that the teacher has not assessed all the pupils in all of the levels. Although random checks of pupils' levels have been conducted by the TST, headteachers, and others to verify whether a pupil is actually in his or her recorded level, this has not deterred some teachers from filling in record books without actually having carried out the assessments.

APPLICABILITY OF THE MODEL TO OTHER SUBJECTS

The IEQ Malawi model has focused on three Standard 3 subjects; Chichewa, English and Mathematics. Objectives and competencies in these subjects appeared to easily conform to the six levels of the rainbow with the easier or pre-requisite knowledge and skills falling into the lower levels (red, yellow, orange) and the more difficult or more complex (for Standard 3 pupils) knowledge and skills falling into the higher levels (green, blue, purple). It is not clear whether other subjects in the syllabus can be differentiated in the same way.

SELF-ASSESSMENT

Teachers and pupils appear to experience difficulty using and valuing the self-assessment chart. Questions related to its use come up repeatedly at school visits and in residential workshops. Several sessions have been devoted to its use. A closer look at how teachers use the How did I do today? chart and its effects on learners should be carried out to determine its efficacy in getting pupils to think about their own learning. Refinements in self-assessment for pupils could be made based on the analysis.

REPORTING

Reporting pupil progress needs more emphasis in the final phases of the study and if the model is to be taken to a larger scale. At present teachers prepare reports based on the forms they have been using for reporting of pupil marks prior to the introduction of continuous assessment. Instead of indicating a percentage (e.g. 73%) as an average or other calculation of a pupil's summary marks for that subject, the teacher colors and writes in the name of the color where that pupil is according to the rainbow chart in that particular subject. A key on the side of the chart reminds parents and others of the progress the child should be making in the year.

Problems arise when teachers have to rank order the pupils in their class for the traditional end of term and end of year closing ceremony. Questions about the value of ranking have been raised. A question that has been raised and needs further exploration is: What is the tension between this model of continuous assessment and ranking?

Is it feasible for primary teachers in Malawi to use this model of Continuous Assessment?

This model of continuous assessment for Malawi is a very promising development in the area of continuous assessment and as an entry point for improving educational quality at the primary level. Significant learning gains by pupils compared with pupils from other schools not engaged in the feasibility study, reports of school visits by TST and other educators, increased demand for training in continuous assessment by teachers, headteachers and even from parents indicate that this method of continuous assessment is having a positive impact on improving the quality of primary education.

The feasibility study has started the process of developing a model for continuous assessment that can work in the Malawi context. Refining existing strategies, developing new ones, and exploring how the model or elements of the model can be expanded to include more teachers and schools all require careful analysis and work before the model goes too far beyond the Ntcheu schools.

The study has raised a number of questions in addition to providing some light on a rather, heretofore, murky area. Training teachers and headteachers in the feasibility study was intensive; with a total of five weeks of residential workshops as well as a minimum of five visits by the TST and others over the course of 18 months. One reason for the intensive training was the developmental nature of the study. Teachers were major players in the development of the model and their understanding of the implementation was necessary in order for them to fully participate in critiques and development of the strategies.

When going to a larger scale what would the requirements for training be? What elements of the present training would be necessary for implementation beyond Ntcheu's mountains and lowlands?

The feasibility study was only able to examine three subjects in one grade. How do the other subjects and the other grades fit in to this model? How does continuous assessment in a broader sense articulate into the larger education system? What is the role of MANEB, MIE, EMAS, Teacher Education, the PCAR and others in future developments of continuous assessment?

The teachers, headteachers, PEAs and others who have worked with IEQ Malawi in finding ways to assess pupils effectively for improved instruction have made a great contribution to the development of the area of continuous assessment. Building on this knowledge and the momentum it has created will be an important next step in improving educational quality in Malawi.

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